

REMARKS---General

Applicant has amended the Abstract as required by the Examiner and appreciates the fact that the amendment makes the abstract more appropriate and readable.

Also applicant has rewritten all claims to emphasize the structural features of the invention more particularly and distinctively to overcome the technical rejections and to define the invention's patentability over the prior art

The claims rejection under 35 USC 112

Claims 5 and 6 were rejected under 35 USC 112, second paragraph as being indefinite and failing to point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claims 5 and 6, the phrases "such as" and "or a similar" render the claims indefinite because it is unclear whether the limitations following the phrases are part of the claimed invention.

Applicant requests reconsideration and withdrawal of this rejection because all claims have been rewritten in the manner taught by the Examiner and applicant believes the revised claims now meet the Examiner's requirements with respect to 35 USC 112.

Rejection of claims 1-4 and 7-9 under 35 USC 102

Claims 1-4 and 7-9 were rejected under 35 USC 102b as being anticipated by Thiermann et al.

In regard to claims 1-4 and 7-9 the cited reference discloses a "spout" 1 having "connecting means" 6, a "liquid conduit" 5, a "vapor/air conduit" 20, a "cone-shaped tank seal" 29, a "check valve" 25, a "vapor/air entrance" 23 and a "spring biased sliding sleeve" 16, as claimed.

Claims 1, 3 and 7-9 were rejected under 35 USC 102(e) as being anticipated by Pears. In regard to claims 1, 3 and 7-9 the Pears reference discloses a "spout" 108 having "connecting means" 138, a "liquid conduit" 110, a "vapor/air conduit" 416, a 'tank seal" 148, a "valve" 150, a "vapor/air entrance" 126 and a spring-biased "sliding sleeve" 144, as claimed.

Neither Thiermann et al. nor Pears disclose a tank seal

Thiermann et al. (5,228,487) does not discuss a tank seal in the specification even though the conical flange shown in the drawings may look like such a device. Examination of actual pour spouts produced under the patent of Thiermann et al. reveals a groove in the surface of the flange not discussed in the specifications. The obvious purpose of the groove is to allow a portion of the vapor/air displaced from the tank to escape to the atmosphere. Also Thiermann's specification cites a version wherein a threaded flange is used to allow adjustment of the flange's position on the sliding sleeve with no means being cited for sealing the threaded portion thus rendering a tank seal meaningless. Since thiermann's patent relies upon developing a partial vacuum in the container a restriction on the amount which is allowed to flow into the container is mandatory and a hermetic tank seal would be contraindicated.

Pears (6,478,058 B1) also fails to cite a tank seal in the cited specification. Even though Pears' conical flange may also have the appearance of a tank seal, Pears, in fact, states "---any protrusion that will activate the slide valve will suffice---". (Page 5, line 25).

Other elements used in the cited references and in other patents which have been granted (and not cited in the first office action) are elements of structure. These elements are basic to any new concepts in the field since vapor must be transferred from tank to container and a shutoff valve must be used to seal off the contents of the container during storage, etc. Applicant's invention is based upon new and useful combinations of these elements as revealed in applicant's revised claims and upon the introduction of new structural elements, both producing new and unique results not anticipated by the cited references.

- (a) Applicant introduces a new vapor passage means derived from a structural clearance between concentric sleeves as opposed to a separately-installed "vent tube" cited in the above references.
- (b) Applicant utilizes a simple flexible disk to prevent flooding of the vapor passage means as opposed to the type of vent tube check valve used in the cited references.
- (c) Applicant introduces a new concept in the structure which results in compression of a small and predetermined volume of confined vapor within the tank opening to stop the flow of fuel into the tank as opposed to maintaining a partial vacuum within the container. The ability to predetermine the size of the confined and compressed volume provides close control of the final fuel level in the filled tank whereas the variable volume of vapor within a partially empty container (from a few cupfuls to more than a gallon of vapor/air) leads to uncertainty as to when the expansion of this volume will finally be sufficient to stop the flow of fuel, thereby leading to more cases of spilled fuel when a large vapor volume within the container is encountered.
- (d) Applicant introduces the concept of longitudinal ribs to maintain concentricity between sleeves forming a plurality of vapor recovery passageways.

Rejection of claims under 35 USC 103(a)

Claims 5 and 6 were rejected under 35 USC 103(a) as being unpatentable over Thiermann et al. Thiermann et al. discloses the invention as claimed (discussed *supra*), but does not disclose the tank seal being made of resilient surface. However, it would have been obvious to anyone having ordinary skill in the art at the time the invention was made to make the Thiermann et al. device having a tank seal made of resilient surface, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Applicant requests reconsideration and withdrawal of this rejection since applicant believes that the absence of a tank seal in the case of Thiermann has been established by applicant's previous argument rendering this rejection no longer applicable.

Further discussion of Clemmons et al. mentioned in examiner's conclusion

In the case of Clemmons (6,484,765) it is evident that this patent is intended to fill tanks commonly used in a limited number of vehicles such as racing cars and 4-wheelers as mentioned by Clemmons in the 'FIELD OF INVENTION' statement and in Clemmons 'BACKGROUND OF INVENTION' statement. These vehicles are usually equipped with steel tanks having the pivotal valve 80 which Clemmons' cylindrical insert 76 is intended to open as depicted in FIG 3. These steel tanks have smooth openings which are round and which can be sealed by the lower cylindrical end 74 depicted by Clemmons, only if they have a common tank opening diameter.

The description by Clemmons of his "thin walled bellows portion 82," page 5, line 32, "*By the presence of different diametric portions, one should be sufficient to engage a variety of sizes for the fluid receiving opening of a given receptacle receiving the dispensed fluid*" does not adequately describe a functional hermetic seal. In the case where a tank opening is slightly larger, or smaller, than one of the said diametric portions, the user would be required to introduce and hold the container spout exactly on-center and square relative to the opening to effect a seal even with a smooth edged opening. This is not likely to occur in the case of a user who is in a hurry and is unable to see clearly the fit between a particular diametric portion of the bellows and the tank opening. It is more than likely that an off-center opening will cross at least two of these diametric portions of the bellows, and that an imperfect seal will result due to the step between one diametric portion and the one immediately above it. In other words, the surface intended for sealing purposes is not continuous as would be required in a hermetic seal. Such a surface is incapable of establishing a hermetic seal.

The citation of "a hermetic tank seal" in Clemmons is an ambiguous statement

Most significantly, the citing of a hermetic seal in Clemmons is undemonstrated since Clemmons fails to provide an argument explaining why such a seal is an applicable part of the concept. The structure depicted in FIG.3 of Clemmons leaves a large amount of residual fuel within the interior spaces of cylindrical end 76, the cylindrical member 28, the cage member 30 and the interior of the circular bellows member 62 after the shutoff valve seat 44 has stopped the flow of fluid from the container during pouring. This amount of residual fuel is considerably greater than the space left available within the opening of the filled tank. As the portable container with its spout is removed from the tank opening, this residual fuel will no longer be contained and will immediately spill out overflowing the tank. Neither the cylindrical end 74, nor the thin walled bellows portion 82, is able to prevent such spillage. The remote location of the shutoff valve seat 44 relative to the cylindrical end 74 is inherent in the device of Clemmons and overcomes the purpose of a "hermetic tank seal" thereby rendering its inclusion in Clemmons' specification puzzling whereas applicant, by contrast, has clearly explained the reason for its inclusion in applicant's concept.

Applicant's invention is directed to a different purpose

The majority of off-road internal combustion engines used in lawnmowers, leaf blowers, chain saws and the like are equipped with plastic tanks produced by the "blow mold" method for cost reduction purposes and do not contain the pivotal valve 80, cited by Clemons. The applicant has examined a number of these tanks and has observed that surfaces on the inner diameters of the tank openings are unfinished and are usually somewhat egg-shaped. They often contain notches opposite the mold parting line and have a variety of diameters from one tank to the next. The top surfaces are usually machined but often are still quite rough. Neither the "thin walled" bellows 62 nor the cylindrical portion 72 cited by Clemons is capable of providing a hermetic seal with these tanks.

It is to these applications that applicant's invention is directed. It is evident that Clemons does not anticipate servicing these applications since no mention is made in Clemons' specification of the strict no-spill, no-vapor-release requirements of the California Air Quality Board or of the requirements currently being put forth by the states of Massachusetts and New Jersey soon to be followed by several other states which speak specifically to internal combustion engine applications normally utilizing these kinds of fuel tanks.

The refueling of racing cars mentioned in Clemons 'BACKGROUND OF THE INVENTION' is notoriously spill-prone due to the urgency of completing the refueling operation in the pits as fast as possible and therefore any device capable of even reducing the amount of spillage without slowing down the speed of refueling would be welcomed. Any requirement for completely eliminating spillage or avoiding the release of vapor would be considered impractical in view of the priority of speedy refueling over any requirements similar to those of the states of California, Massachusetts or New Jersey for off-road internal combustion engines used in garden tractors, lawn mowers, chain saws, etc., and it is evident from the above discussion of Clemons' specification and drawings that such requirements are not anticipated by Clemons.

By contrast applicant's functional purpose for a tank seal is evident in light of the purpose of providing means for holding and compressing the small amount of vapor confined in the tank opening and maintaining the pressure until the container is removed from the tank.

Conclusion

For all of the above reasons applicant submits that the abstract and claims are now in proper form, and that the claims all define patentability over prior art. Therefore applicant submits that this application is now in condition for allowance, which action applicant respectfully requests.

Conditional request for constructive assistance

Applicant has amended the abstract and claims so that they are proper, definite and define novel structure which is also unobvious. If, for any reason, this application is not believed to be in full condition for allowance, applicant respectfully requests the constructive assistance and suggestions of the Examiner pursuant to M.P.E.P. 2173.02 and 707.07(j) in order that the undersigned can place this application in allowable condition as soon as possible and without the need for further proceedings.

Very respectfully,



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